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10/577,816	01/25/2007	Sung-Hoon Kim	51876P1072	6972

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EXAMINER	
CHOKSHI, PINKAL R	

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2425	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/577,816	KIM ET AL.	
	Examiner	Art Unit	
	PINKAL CHOKSHI	2425	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 15-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 15-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/27/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/5/2008 with respect to claim 5 have been considered but are moot in view of the new ground(s) of rejection. With regard to the dependent claims, the respective rejections are maintained as Applicant has only argued that the secondary references do not cure the deficiency of MacInnis, nevertheless it is the Examiner's contention that MacInnis does not contain any deficiency. See the new rejection below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 1, 3, 5, 6, 9, and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,487,723 to MacInnis (hereafter referenced as MacInnis) in view of US PG Pub 2005/0064859 to Kotzin et al (hereafter referenced as Kotzin).

Regarding **claim 1,** "a data broadcast receiving apparatus capable of supporting an interactive service" reads on the system for downloading different versions of software into STB by interacting with head-end and other sources (abstract) disclosed by MacInnis and represented in Fig. 5.

As to "apparatus comprising: a demultiplexing component to divide signals transmitted from the outside into signals of a kind" MacInnis discloses (col.4, lines 23-30, 36-40) that the descriptor table is transmitted with MPEG transport stream from transmission source to terminals where the device extracts the table from transport stream to download the software as represented in Fig. 2.

As to "a download processing component to receive downloadable data of the signals divided in the demultiplexing component, determining the kind of the downloadable data, and performing an upgrade by downloading the downloadable data" MacInnis discloses (col.7, lines 32-58) that the terminal receives module descriptor table extracted from transport stream and based on this table, terminal determines newer version of data and downloads the newer version from the download data stream as represented in Figs. 4 and 5.

MacInnis meets all the limitations of the claim except "a controlling component to control elements of the data broadcast receiving apparatus, the controlling component further to receive and to output contents of the signals divided in the demultiplexing component." However, Kotzin discloses (¶0028) that the controller in the wireless device controls features such as receive and transmit signals as represented in Fig. 2 (element 201). As to "a mobile terminal accessing component to access a mobile communication network based on the downloadable data" Kotzin discloses (¶0020) that the wireless subscriber device requests and receives downloads such as software programs and upgrades using cellular network as represented in Fig. 1 (element 107). Therefore, it would

have been obvious to one of the ordinary skills in the art at the time of the invention to modify MacInnis' invention by using a device to download software program from Mobile network as taught by Kotzin in order to cut the expense by avoiding a technician's visit to upgrade the set-top boxes.

Regarding **claim 3,** "the data broadcast receiving apparatus wherein the download processing component determines the kind of the downloadable data by using a downloadable data information descriptor describing data broadcast specification information" MacInnis discloses (col.2, lines 35-43) that each table received in transport stream in the receiver has descriptor information which identifies the compatibility requirements to download data from transmitting source.

Regarding **claim 5,** "a method for upgrading software by using downloaded data inputted from the outside in a data broadcast receiving apparatus" reads on the system for downloading different versions of software into STB by interacting with head-end and other sources (abstract) disclosed by MacInnis and represented in Fig. 5.

As to "method comprising the steps of: a) selecting downloadable data from broadcast stream in the data broadcast receiving apparatus" MacInnis discloses (col.4, lines 23-30, 36-40) that the descriptor table is transmitted with MPEG transport stream from transmission source to terminals where the device

extracts the table from transport stream to download the software as represented in Fig. 2.

As to “b) determining the kind of the downloadable data” MacInnis discloses (col.7, lines 32-58) that the terminal receives module descriptor table extracted from transport stream and based on this table, terminal determines newer version of data to download the newer version from the download data stream as represented in Figs. 4 and 5.

As to “c) upgrading the software according to the kind of the downloadable data” MacInnis discloses (col.7, lines 32-58) that based on the descriptor table, terminal determines newer version of data to download the newer version from the download data stream as represented in Figs. 4 and 5.

MacInnis meets all the limitations of the claim except "receiving and processing a request for accessing a mobile communication network from the user.” However, Kotzin discloses (¶0020) that the wireless subscriber device requests and receives downloads such as software programs and upgrades using cellular network as represented in Fig. 1 (element 107). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify MacInnis’ invention by using a device to download software program from Mobile network as taught by Kotzin in order to cut the expense by avoiding a technician’s visit to upgrade the set-top boxes.

Regarding **claim 6,** "the method wherein the step a) includes: a1) monitoring the presence of a downloadable data information descriptor in the broadcast stream" MacInnis discloses (col.7, lines 44-54) that the terminal receives descriptor table from the network and constantly checks for a newer software version as represented in Fig. 4 9 (element 404).

As to "a2) extracting data identification information from the downloadable data information descriptor" MacInnis discloses (col.4, lines 23-30, 37-40) that the data stream ID included in the module is extracted from descriptor table transmitted to receiver.

Regarding **claim 9,** "the method wherein the kind of the downloadable data includes a middleware module for accessing a mobile communication terminal and a middleware plug-in" MacInnis discloses (col.1, lines 11-14) that the system downloads software module over a network to a receiver. MacInnis further discloses (col.7, lines 25-28) that the terminals automatically receive software upgrade.

Regarding **claim 17,** "a data broadcast receiving apparatus supporting an interactive service" reads on the system for downloading different versions of software into STB by interacting with head-end and other sources (abstract) disclosed by MacInnis and represented in Fig. 5.

As to "apparatus comprising: a demultiplexing means for dividing signals from the outside into signals of a kind" MacInnis discloses (col.4, lines 23-30, 36-40) that the descriptor table is transmitted with MPEG transport stream from transmission source to terminals where the device extracts the table from transport stream to download the software as represented in Fig. 2.

As to "a download processing means for receiving downloadable data divided in the demultiplexing means, determining the kind of the downloadable data, and performing upgrade by downloading the downloadable data" MacInnis discloses (col.7, lines 32-58) that the terminal receives module descriptor table extracted from transport stream and based on this table, terminal determines newer version of data and downloads the newer version from the download data stream as represented in Figs. 4 and 5.

MacInnis meets all the limitations of the claim except "a controlling means for controlling elements of the data broadcast receiving apparatus, receiving and outputting contents divided in the demultiplexing means." However, Kotzin discloses (¶0028) that the controller in the wireless device controls features such as receive and transmit signals as represented in Fig. 2 (element 201). As to "a mobile terminal accessing means for accessing a mobile communication network based on the downloadable data" Kotzin discloses (¶0020) that the wireless subscriber device requests and receives downloads such as software programs and upgrades using cellular network as represented in Fig. 1 (element 107). Therefore, it would have been obvious to one of the ordinary skills in the art at

the time of the invention to modify MacInnis' invention by using a device to download software program from Mobile network as taught by Kotzin in order to cut the expense by avoiding a technician's visit to upgrade the set-top boxes.

4. **Claims 2, 4, 7, 8, and 10-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over MacInnis in view of Kotzin as applied claim 1 above, and further in view of US Patent 6,941,341 to Logston et al. (hereafter referenced as Logston).

Regarding **claim 2,** "an operating component to operate the data broadcast receiving apparatus and controlling the middleware processing component and the mobile terminal accessing component" MacInnis discloses (col.6, lines 30-35) that each terminal operates mechanism to determine whether the new software upgrade is available and contacting manufacturer server at remote location to download the software.

MacInnis meets all the limitations of the claim except "the data broadcast receiving apparatus wherein the controlling component includes: a middleware processing component to process middleware of the data broadcast receiving apparatus, controlling the download processing component." However, Kotzin discloses (¶0020 and ¶0028) that the processor included in controller of the wireless device controls features and functions, such as download software programs and upgrades, of the wireless device as represented in Fig. 2 (element 201). In addition, same motivation is used as to reject claim 1.

Combination of MacInnis and Kotzin meets all the limitations of the claim except "receiving a middleware module and a middleware plug-in software included in the downloadable data from the download processing component." However, Logston discloses (col.4, lines 21-26) that the program distributed to STB includes plurality of types of modules including add-on module. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify MacInnis and Kotzin's invention by using plug-in software in download data application as taught by Logston in order to facilitate additional capabilities within client device (col.4, lines 34-36).

Regarding **claim 4,** "the data broadcast receiving apparatus as recited in claim 3, wherein the downloadable data information descriptor includes at least one among Program Specific Information (PSI) of the Moving Picture Experts Group (MPEG)-2 system, Data Service Table (DST) of the Advanced Television Systems Committee (ATSC) data broadcasting, Application Information Table (AIT) of the DVB-Multimedia Home Platform (MHP), and System Information (SI) of the Digital Multimedia Broadcasting (DMB)" MacInnis discloses (col.4, lines 23-30) that the descriptor table included in transport stream includes identification number such as packet identifier (PID) and table identifier within the stream. However, MacInnis does not explicitly teach that the program includes System Information (SI). Logston discloses (col.29, lines 56-66) that the transport stream comes in receiver includes System Information (SI) table.

Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify MacInnis and Kotzin's invention by using system information in the stream as taught by Logston in order to describe all of the elements of the stream (col.29, lines 65-66).

Regarding **claim 7,** "the method wherein the downloadable data information descriptor includes at least one among Program Specific Information (PSI) of the Moving Picture Experts Group (MPEG)-2 system, Data Service Table (DST) of the Advanced Television Systems Committee (ATSC) data broadcasting, Application Information Table (AIT) of the DVB-Multimedia Home Platform (MHP), and System Information (SI) of the Digital Multimedia Broadcasting (DMB)" MacInnis discloses (col.4, lines 23-30) that the descriptor table included in transport stream includes identification number such as packet identifier (PID) and table identifier within the stream. However, MacInnis does not explicitly teach that the program includes System Information (SI). Logston discloses (col.29, lines 56-66) that the transport stream comes in receiver includes System Information (SI) table. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify MacInnis and Kotzin's invention by using system information in the stream as taught by Logston in order to describe all of the elements of the stream (col.29, lines 65-66).

Regarding **claim 8,** "the method wherein the kind of the downloadable data is determined based on the data identification information in the step b)" MacInnis discloses (col.4, lines 25-30) that the terminal receives a list of modules and the location such as data stream ID where this modules can be found to download the upgraded software as represented in Fig. 3A.

Regarding **claim 10,** "the method wherein the step c) includes the steps of: c1) upgrading the software by using the middleware module" MacInnis discloses (col.7, lines 50-53) that the operating system software in receiver is upgraded with newer version of the software program.

MacInnis meets all the limitations of the claim except "c2) upgrading the software by using the middleware plug-in." However, Logston discloses (col.10, lines 50-53) that the communication between the client device and the server can be made my downloading add-on module. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify MacInnis invention by using plug-in software in download data application as taught by Logston in order to facilitate additional capabilities within client device (col.4, lines 34-36).

Regarding **claim 11,** "the method wherein the step c) includes the steps of: c3) determining whether the version of the downloaded middleware module is the same as the version of the pre-established middleware version" MacInnis

discloses (col.7, lines 44-47) that the comparison is made between the software version number available in the received descriptor and the currently executing software version number in the terminal.

As to "c4) setting up the downloaded middleware module, if the version of the downloaded middleware module is not the same as the version of the pre-established middleware version" MacInnis discloses (col.7, lines 50-54) that if the software version number of the descriptor table is newer than the software version number in the terminal, then the system download the newer version.

Regarding **claim 12,** "the method wherein the step c) includes the steps of: c5) suspending an application in execution temporarily and c6) executing the temporarily suspended application after the setup of the middleware module" MacInnis discloses (col.7, lines 53-54) that the system shuts down and turns on the device by rebooting the terminal after newer version is installed.

5. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over MacInnis, Kotzin and Logston as applied claim 10 above, and further in view of US Patent 6,078,951 to Pashupathy et al. (hereafter referenced as Pashupathy).

Regarding **claim 13,** combination of MacInnis, Kotzin, and Logston meets all the limitations of the claim except "the method wherein the step c2) includes the steps of: c2-1) checking whether the Multipurpose Internet Mail Extensions (MIME) format of the downloaded middleware plug-in is registered." However,

Pashupathy discloses (col.1, lines 24-31; col.4, lines 28-30, 38-41) that the downloaded software program includes MIME format listed in table for STB is registered as represented in Figs. 3 and 4 (elements 320, 420). As to "c2-2) if the format of the downloaded middleware plug-in is new, registering the format of the downloaded middleware plug-in and c2-3) setting up the downloaded middleware plug-in" Pashupathy discloses (col.4, lines 50-56) that given a MIME format, client device is updated each time a new program format is received and installed onto the client device. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify MacInnis, Kotzin, and Logston's inventions by using MIME format for downloaded data as taught by Pashupathy so the user does not have to search for the program that supports specific format by regularly updating the table (col.1, lines 36-37).

6. **Claims 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over US MacInnis in view of Kotzin as applied to claim 14 above, and further in view of US Patent 6,237,039 to Perlman et al (hereafter referenced as Perlman).

Regarding **claim 15,** "the method wherein the step d) includes the steps of: d1) checking whether the downloadable data include a module capable of accessing a mobile terminal" MacInnis discloses (col.5, lines 11-19) that the descriptor table includes a hardware manufacturer information with the location information where the device can download the modules by contacting manufacturer's site at remote location.

As to "d3) if the request for accessing the mobile communication network from the user can be executed, accessing the mobile communication network by executing user authentication and a mobile terminal accessing program" MacInnis discloses (col.8, lines 50-55) that the authentication function for each terminal/user is provided to ensure that authenticated programs are downloaded using network to the terminal. MacInnis meets all the limitation of the claim except "accessing a mobile communication network." However, Kotzin discloses (¶0020) that the wireless subscriber device requests and receives downloads such as software programs and upgrades using cellular network as represented in Fig. 1 (element 107). Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify MacInnis' invention by using a device to download software program from Mobile network as taught by Kotzin in order to cut the expense by avoiding a technician's visit to upgrade the set-top boxes.

Combination of MacInnis and Kotzin meets all the limitations of the claim except "d2) if the access to the mobile terminal is possible, checking whether the request for accessing to the mobile communication network from the user can be executed." However, Perlman discloses (col.4, lines 49-52, 56-59) that the user requests a web page on the Internet from the web terminal and the system is checking and waiting to see if the user requested page can be executed. Therefore, it would have been obvious to one of the ordinary skills in the art at the time of the invention to modify MacInnis and Kotzin's inventions by checking

to see if user's requested page/program on the Internet can be executed as taught by Perlman in order to verify that user has an access to Internet.

Regarding **claim 16,** "the method wherein whether the request for accessing to the mobile communication network from the user can be executed is determined based on module information of the mobile terminal of the user or communication company information" MacInnis discloses (col.5, lines 16-19) that the location information associated with module determines the location to download module from the manufacturer's site using Internet.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PINKAL CHOKSHI whose telephone number is (571) 270-3317. The examiner can normally be reached on Monday-Friday 8 - 5 pm (Alt. Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendleton can be reached on 571-272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pinkal Chokshi/
Examiner, Art Unit 2425

/Brian T. Pendleton/

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